

ORIGINAL
NEW APPLICATION



0000198837

Melissa M. Krueger
Theresa Dwyer
Pinnacle West Capital Corporation
400 North 5th Street, MS 8695
Phoenix, Arizona 85004
Tel: (602) 250-2439
Fax: (602) 250-3393
E-Mail: Melissa.Krueger@pinnaclewest.com
Theresa.Dwyer@pinnaclewest.com

RECEIVED
AZ CORP COMMISSION
DOCKET CONTROL
2019 JUL -1 P 2:03

Attorneys for Arizona Public Service Company

E-01345A-19-0148

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

Arizona Corporation Commission

DOCKETED

BOB BURNS, Chairman
BOYD DUNN
SANDRA D. KENNEDY
JUSTIN OLSON
LEA MRQUEZ PETERSON

JUL 01 2019

DOCKETED BY

aa

IN THE MATTER OF THE APPLICATION
OF ARIZONA PUBLIC SERVICE
COMPANY FOR APPROVAL OF ITS 2020
RENEWABLE ENERGY STANDARD
IMPLEMENTATION PLAN FOR RESET
OF RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01345A-19-____

**APPLICATION FOR APPROVAL
OF 2020 RENEWABLE ENERGY
STANDARD IMPLEMENTATION
PLAN**

The attached 2020-2024 Renewable Energy Standard (RES) Implementation Plan (2020 RES Plan or Plan) continues Arizona Public Service Company's (APS or Company) commitment to the renewable energy targets established by the Arizona Corporation Commission's (Commission) RES rules. APS submits its 2020 RES Plan (attached as Exhibit A) under A.A.C. R14-2-1813 and in accordance with Staff's standardized reporting format developed in Decision No. 72737 (Jan. 18, 2012).

APS's 2020 RES Plan requests funding for previously-authorized programs, including legacy performance-based incentives, renewable purchase power costs and ongoing program administrative costs, educational outreach, and administration of prior initiatives currently being implemented. The Plan seeks the Commission's approval of a total base RES budget of \$86.3 million for 2020, and the total request for the 2020-2024

1 Plan to be \$399.6 million, not including any funding offsets. After applying funding
2 offsets, the total requested RES Surcharge Collection for 2020 is \$69.1 million.

3 The Plan includes the following:

- 4 • Summary information regarding the amount of renewable generation on
5 APS's system and its progress towards compliance with the RES;
- 6 • A request for waiver under A.A.C. R14-2-1816 of the residential distributed
7 energy requirement provided in A.A.C. R14-2-1805 to recognize the
8 substantial amount of non-incented residential distributed energy on APS's
9 system;
- 10 • A request to continue the Green Choice Rates as proposed in the 2019 RES
11 Plan;
- 12 • Estimated budgets for 2020 through 2024; and
- 13 • A request for funds to support the limited- and moderate-income solar
14 programs approved in APS's last rate case.¹

15 This Application briefly touches upon each of the foregoing.

16 **I. PLAN HIGHLIGHTS**

17 **A. APS Requests a Waiver of the Residential Distributed Generation**
18 **Requirement While Continuing to Exceed Overall Compliance with**
19 **the RES.**

20 APS's portfolio of Renewable Generation (RG) resources contains significant RG
21 resources that serve the energy demands of all APS customers. The Renewable Energy
22 Standard requires APS to obtain 10% percent of its retail sales with renewable energy
23 resources by the end of 2020. APS anticipates that, given the amount of renewable
24 energy already in its diverse resource portfolio and the current volume of
25 interconnection applications for distributed generation, that approximately 15.6 percent
26 of the Company's retail sales will be met by renewable resources by the end of 2019.

27
28 ¹ See Decision No. 76295 (Aug. 18, 2017).

1 APS's targeted RG goal for 2020 is 2,461 GWh. APS is far ahead of compliance
2 with the overall cumulative RES goal and is compliant with the non-residential
3 distributed generation requirements through 2021. APS will not have enough Renewable
4 Energy Credits to meet the residential distributed generation targets (DG carve out)
5 contained in the RES for 2020.

6 APS therefore requests a full and permanent waiver of the DG carve out
7 contained in A.A.C. R14-2-1805 for 2020. A.A.C. R14-2-1816 provides that "[t]he
8 Commission may waive compliance with any provision of this Article for good cause."
9 Good cause exists to waive the residential distributed energy requirements for 2020.
10 First, a permanent waiver is the least costly way for APS to establish compliance with
11 the residential distributed generation targets. Second, as documented in APS's most
12 recent Renewable Energy Standard Compliance Report filed in March 2019, there
13 continues to be a substantial and continuous amount of non-incented rooftop solar being
14 installed in APS's service territory and the intent of the DG carve out is already being
15 satisfied.

16 **B. Increase Educational Outreach**

17 Decision No. 71459 (Jan. 29, 2010) created the Arizona Goes Solar website.
18 APS believes that analyzing and updating the website would be valuable and appropriate
19 at this juncture, so that customers have accurate and up-to-date information on solar and
20 other evolving distributed resource industries, as well as current market conditions. APS
21 proposed in 2019 to continue funding RES education and outreach and update the
22 website to make the platform current and more user-friendly. The website serves as a
23 repository of relevant Arizona information for distributed generation resources for
24 stakeholders and customers. APS will continue this work in 2020. In addition, APS will
25 be providing education and outreach to solar customers in compliance with the
26 Commission's decision in Docket No. E-01345A-19-0003.
27
28

1 **C. APS Solar Communities**

2 Under Decision No. 76295 (Aug. 18, 2017), APS continues to expand rooftop
3 solar installations for limited- and moderate-income customers through Company-owned
4 solar distributed generation program known as APS Solar Communities. As required,
5 APS continues to invest between \$10 and \$15 million annually, allocating at least 65%
6 of annual program expenditures to residential installations for limited- and moderate-
7 income families. This Application requests \$4.6 million in 2020 for the revenue
8 requirements associated with APS Solar Communities Program. The Program offers
9 clean energy to limited- and moderate-income customers in single-family and multi-
10 family housing, as well as non-profit commercial customers that serve limited-income
11 populations, Title I Schools, and rural government customers.

12 **II. APS'S PLAN PROPOSES A 2020 BUDGET AND RES ADJUSTOR TO**
13 **SUPPORT EXISTING APPROVED PROJECTS AND COMMITMENTS.**

14 As discussed previously, APS requires a total 2020 RES budget of approximately
15 \$86.3 million, a decrease from the 2019 budget, even without any funding offsets. APS
16 intends to apply several credits and revenue streams to lower total RES adjutor
17 collections needed in 2020.

18 In addition, by the end of 2020, APS expects to have unallocated funds in the
19 amount of \$20.6 million. APS proposes to use approximately \$10.3 million of these
20 collected, but unallocated funds, to reduce its 2020 budget and apply the remaining
21 \$10.3 million as an offset to the 2021 budget.

22 **III. CONCLUSION**

23 APS's 2020 RES Plan provides continued support and funding to enable APS to
24 meet its obligations under the RES while moderating incremental rate impact. The
25 Company respectfully requests that the Commission approve APS's 2020 RES Plan and
26 budget as proposed.

1 RESPECTFULLY SUBMITTED this 1st day of July 2019.

2
3 By: Thomas J. Mumaw for Melissa M. Krueger
4 Melissa M. Krueger
Theresa Dwyer
Attorneys for Arizona Public Service Company

5
6 ORIGINAL and thirteen (13) copies
of the foregoing filed this 1 day
7 of July 2019 with:

8 Docket Control
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
9 Phoenix, Arizona 85007

10 Jh
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Exhibit A



Renewable Energy Standard Implementation Plan 2020-2024

July 1, 2019

Contents

i. Executive Summary ii

Introduction 1

 A. 2020-2024 RES Requirement..... 1

I. Renewable Generation 1

 A. Biomass..... 2

II. Distributed Generation..... 2

 A. APS Interconnection and Program Management 2

 B. Investment in AZ SUN II (APS Solar Communities) 2

 C. Managing long-term PBI contracts and payments..... 3

 D. Residential DG 3

III. Program Administration 4

 A. Distributed Energy Administration Plan (DEAP) 4

 B. Educational outreach 4

 C. Green Choice Program 4

IV. Budget 4

 A. Reallocation of program funds 5

i. Executive Summary

Arizona Public Service Company (APS or Company) is required by the state's Renewable Energy Standard (RES) to achieve 10.0 percent of retail sales with renewable resources by year-end 2020, increasing annually to 14.0 percent in 2024. In the following 2020-2024 RES Implementation Plan (Plan), APS requests funding approval for existing program commitments and deployment of previously authorized programs. The Company expects to achieve compliance with the 2020 RES requirements provided all of the resources discussed herein are authorized and continued as previously-approved in prior Arizona Corporation Commission (Commission) decisions. As to the residential distributed generation (DG) target, APS requests a permanent waiver in lieu of compliance due to the continued steady levels of non-incented rooftop solar being installed in its service territory.

Renewable Generation. Renewable Generation (RG) resources within the APS portfolio are larger-scale renewable energy resources that serve the energy demand of all APS customers. APS's targeted RG resources for 2020 is 2,461 GWh.

Distributed Generation. As of December 31, 2018, there were a total of 90,055 residential and non-residential solar grid-tied DG systems, with associated capacity of 851 MW-AC. Of those systems, 22,365 were residential installations and 1,009 non-residential installations that received incentives to interconnect solar grid-tied DG systems, with associated capacity of 131 MW-AC and 187 MW-AC, respectively. Based upon these currently-installed resources, as well as commitments from previously-approved program budgets, APS projects it will be in compliance with non-residential energy targets until 2021 and residential DG energy targets through December 2017. APS is not requesting monies for new solar grid-tied DG resource incentives in the Plan because the DG market and interconnections remain robust.

The above DG forecast does not include RECs associated with non-incented installations. Through May 1, 2019, 71,249 residential solar grid-tied DG systems (501 MW-AC) and 592 non-residential solar grid-tied DG systems (52 MW-AC) have been installed across the APS service territory and interconnected to APS's grid without receiving incentives. Given the continued consistent levels of residential DG in APS's service territory, the Company requests a permanent waiver of the residential compliance requirement in 2020. APS continues to see high rates of solar DG interconnections without an incentive, but the DG compliance requirement only includes RECs associated with installations that received an incentive.

Budget. The requested budget for APS's 2020 Plan consists of funding for previously-authorized programs, including legacy Production-Based Incentive (PBI) subsidy payments, purchased power agreement (PPA) and revenue requirement costs, educational outreach, and administration of prior initiatives currently being implemented.

APS expects the total base budget for PBI and other DG legacy, PPA projects in 2020 to be \$86.3 million, and the total request for the 2020-2024 Plan years to be \$399.6 million, not including any funding offsets.

Introduction

In the 2020-2024 RES Implementation Plan, APS provides an update on authorized renewable energy programs, generation projects, and the Green Choice Program, as well as any related budget requirements.

A. 2020-2024 RES Requirement

The RES was established in August 2007, and requires APS to file a Plan each year for review and approval by the Commission.¹ The Plan describes the Company's strategy to meet the requirements of the RES for the next five calendar years, identifying the eligible technologies, the expected schedule for the resource incorporation on a year-by-year basis, and both the megawatts (MW) and megawatt hours (MWh) expected to be added to the APS portfolio by the incorporation of those resources.

APS has prepared this Plan for the five-year period 2020-2024 in compliance with the RES rules. The RES requires that affected utilities satisfy an annual renewable energy requirement by providing a percentage of their electric retail sales from renewable energy resources. The required percentage for the current implementation period begins at 10.0 percent in 2020 and increases to 14.0 percent in 2024. The RES requires that the minimum percentage be increased to 15.0 percent of the utility's total retail sales by the year 2025.

Per Decision No. 74882 (December 31, 2014), compliance with the DG rules may be met absent direct cash incentives. The Commission requires APS to include information in its Plan on the Company's compliance standing both with and without being able to record renewable energy installed independently by a customer without receiving a direct cash incentive (described herein as non-incented installations). Exhibits 2B and 2C identify distributed generation production under both scenarios requested by the Commission. Other energy exhibits in this Plan show existing and projected non-incented installations.

I. Renewable Generation

RG resources within the APS portfolio are larger-scale renewable energy resources that serve the energy demand of all APS customers. These resources are part of the Company's energy portfolio as provided to the Commission in the Company's 2017 Integrated Resource Plan—as such, they are applied to APS's overall RES requirements.² APS is required to include estimated pricing information related to RG projects. Consistent with prior Plans,

¹ A.A.C. R14-2-1801 et seq.

² Docket No. E-00000V-15-0094, filed in compliance with A.A.C. R14-2-703.

APS has included a redacted version of the information in Exhibits 3B and 3D and is providing un-redacted pricing information directly to Commission Staff.

A. Biomass

On May 9, 2019, APS filed a report summarizing the results of its evaluation of the feasibility and potential cost of converting a unit at the Cholla power plant to burn biomass. The report and other related documents can be viewed in Docket No. E-00000Q-17-0138. This information was also presented to the Commission at the May 21, 2019 Open Meeting. APS is not taking any further action at this time absent further direction from the Commission.

II. Distributed Generation

A. APS Interconnection and Program Management

Consistent with Commission direction on incentive-funding step downs and APS performance with the DG requirements; APS ceased offering direct-cash incentives for residential and non-residential solar DG grid-tied resources at the end of 2013. The Company continues to experience a steady application volume for non-incented residential DG grid-tied generating facilities during 2019.

With the consistent volume of interconnection requests comes steady activity in the areas of application review, meter installation, distributed energy resource (DER) planning, legacy program management and ongoing customer support. The RES budget request of \$8.8 million for distributed energy program administration and implementation reflects the need to be responsive to the robust market environment for solar and other DER technology adoption.

B. Investment in AZ SUN II (APS Solar Communities)

Per Decision No. 76295 (August 18, 2017) (Decision), the Commission approved APS to expand rooftop solar installations for limited- and moderate-income Arizonans. APS owns all of the generation under the program and all the renewable energy credits under the program. The Decision requires APS to invest between \$10 and \$15 million annually over three years (2018, 2019, 2020), allocating at least 65% of annual program expenditures to residential installations. APS seeks \$4.6 million in 2020 for the APS Solar Communities Program. This reflects the total program costs as approved in the Decision. The program is available to limited- and moderate-income customers in single-family and multi-family housing, as well as non-profit commercial customers that serve limited-income populations, Title I Schools, and rural government customers. APS is required to file a quarterly report on the progress of this program. APS's quarterly reports and related documents can be viewed in Docket Nos. E-01345A-16-0036 and E-01345A-16-0123.

C. Managing long-term PBI contracts and payments

From 2009 to 2013, APS was authorized to implement annual PBI programs for non-residential customers who deploy DG grid-tied resources at commercial sites. PBIs are paid on a cents/kWh basis for actual solar generation. These legacy PBI contracts represent long-term, ongoing RES budget commitments that are gradually paid to customers or third-party providers over the length of the contracts.

Exhibit 3C provides detail on this category of subsidy expenditures. APS has entered into long-term PBI contracts totaling \$633.4 million over the life of the RES. By the end of 2020, the Company will have paid approximately \$277.2 million cumulatively against the total. APS estimates that at the end of 2020, \$324.2 million in lifetime PBI payments will remain to be collected and paid for through future RES budgets, with \$32.0 million projected to be paid during 2020.

Exhibit 3C also includes the amortization of PBI commitments through ongoing incentive payments as well as the reduction in remaining PBI authorizations no longer needed to complete prior programs.

APS renewable energy program staff manage all of the associated PBI credit purchase contracts, assist customers with system modification and billing queries, support quarterly PBI payment processing and facilitate CPA assignments and contact or payee information changes. Ongoing PBI contract management is included in the RES budget request of \$8.8 million for DG program administration and implementation.

D. Residential DG

APS requests a permanent waiver of the residential DG carve-out requirement in 2020 due to continued high levels of residential DG being installed in its service territory without an incentive. Nonetheless, the Company expects to be more than 70% compliant with the 2020 incremental residential goal. APS projects it will be in compliance with incented non-residential energy targets until 2021 and incented residential DG energy targets through December 2017. Through May 1, 2019, 71,249 residential solar grid-tied DG systems (501 MW-AC) and 592 non-residential solar grid-tied DG systems (52 MW-AC) have been installed and interconnected without receiving incentives. APS continues to see consistently high rates of solar DG interconnections without an incentive; however, the DG compliance forecast only includes RECs associated with installations that received an incentive. By the end of 2019, cumulative DG capacity (all technologies) on the APS system will be at least 911 MW-AC, of which 553 MW-AC is non-incented DG interconnections.

III. Program Administration

A. Distributed Energy Administration Plan (DEAP)

The DEAP is a master program administration guideline that APS posts on its public website at aps.com/renewables. APS has made no changes to the DEAP that was approved in Decision No. 74237 on January 7, 2014.

B. Educational outreach

Decision No. 71459, paragraph 54 (January 29, 2010), created the Arizona Goes Solar website to help promote the availability of REST funds for residential solar projects, create additional awareness of incentives for residential and commercial solar projects, and provide a publicly accessible source for accurate solar market data. APS sees value in continuing to maintain the Arizona Goes Solar website, as the information provides ratepayers with accurate and up-to-date information on the solar and evolving DER industries. In 2019, the Arizona Goes Solar website is moving to a more secure and modern platform. The required content provided on the website will remain the same.

APS will comply with Commission decision resulting from Docket No. E-01345A-19-0003 regarding solar customer educational outreach.

C. Green Choice Program

APS proposed changes in its pending 2019 RES Implementation Plan to modify the Green Choice Program to increase customer participation by better meeting customer's preferences for resource type. The 2019 RES Implementation Plan application can be viewed in Docket No. E-01345A-18-0226. APS is not proposing any additional changes to the program at this time.

IV. Budget

The budget for APS's 2020 Plan consists of funding for previously authorized programs including PBI legacy payments, PPA and revenue requirement costs, and prior initiatives currently being implemented.

The total base RES budget in 2020 is \$86.3 million and the five-year total for the 2020-2024 Plan is projected to be \$399.6 million, not including any funding offsets.

APS intends to apply several credits and revenue streams to lower the total RES adjustor collections needed in 2020 and 2021. Offsets to the 2020 budget (see Exhibit 3A) include \$6.0 million from the System Benefit Charge included in base rates, rate program revenues, and general reallocation offsets due to variances in power purchase costs, programs

completed under budget, and cancelled projects. After applying these funding offsets, the total requested RES Surcharge Collection for 2020 is \$69.1 million.³

A. Reallocation of program funds

In prior RES plans, APS has applied a portion of the Company's unallocated program funds as a direct offset to a given year's budget to reduce the need for additional RES collections. By the end of 2020, APS expects to have estimated unallocated funds in the amount of \$20.6 million. APS proposes to use \$10.3 million of these collected but estimated unallocated funds in the 2020 budget and apply the remaining \$10.3 million as an offset to the 2021 budget.

³ See Exhibit 3A: 2020 RES IP Summary Budget.

This page intentionally left blank.

Exhibit 1A: APS 2020 - 2024 RES Program Summary

Line No.	APS RES Targets (MWh)	2020	2021	2022	2023	2024	Line No.
1							1
2	APS Estimated Retail Sales	29,272,906	29,860,055	30,413,990	30,934,710	31,408,016	2
3	APS RES Target - % of Retail Sales	10.0%	11.0%	12.0%	13.0%	14.0%	3
4	APS Total RES Requirement	2,927,291	3,284,606	3,649,679	4,021,512	4,397,122	4
5							5
6	RES Generation Target	2,049,103	2,299,224	2,554,775	2,815,059	3,077,986	6
7							7
8	Distributed Energy % of RES Requirement	30%	30%	30%	30%	30%	8
9	Distributed Energy Requirement	878,187	985,382	1,094,904	1,206,454	1,319,137	9
10	Residential Distributed Energy (50%)	439,094	492,691	547,452	603,227	659,568	10
11	Non-Residential Distributed Energy (40%)	351,274	394,153	437,962	482,582	527,655	11
12	Wholesale Distributed Energy (10%) ¹	87,819	98,538	109,490	120,645	131,914	12
13							13
14	Renewable Generation (MWh)						14
15							15
16	RES Generation Target	2,049,103	2,299,224	2,554,775	2,815,059	3,077,986	16
17							17
18	Existing/Planned Generation Owned/Contracted	2,460,845	2,511,644	2,534,795	2,471,501	2,427,623	18
19	Energy Applied To/(Withdrawn From) APS Bank for RES	411,741	212,418	(19,980)	(343,557)	(650,362)	19
20							20
21	Customer Sited Distributed Energy (MWh)						21
22							22
23	RES Distributed Energy Requirement	878,187	985,382	1,094,904	1,206,454	1,319,137	23
24							24
25	Estimated Existing Distributed Energy ²	833,392	827,790	834,009	836,714	845,162	25
26							26
27	Energy Applied To/(Withdrawn From) APS Bank for RES	(44,795)	(157,592)	(260,894)	(369,740)	(473,975)	27
28	(line 25 - line 23)						28
29	Non-Incurred DE Installations	1,265,320	1,404,647	1,543,973	1,683,300	1,822,626	29
30	Total RES Energy (MWh)						30
31							31
32	Total RES Requirement	2,927,291	3,284,606	3,649,679	4,021,512	4,397,122	32
33							33
34	Total Expected RES Production (line 18 + line 25)	3,294,237	3,339,434	3,368,804	3,308,215	3,272,785	34
35							35
36	Energy Applied To/(Withdrawn From) APS Bank for RES	366,947	54,828	(280,875)	(713,297)	(1,124,337)	36
37	(line 34 - line 32)						37
38	Non-Incurred DE Installations	1,265,320	1,404,647	1,543,973	1,683,300	1,822,626	38
39	APS RES Budget Summary (\$ M's)						39
40							40
41	Total Renewable Generation \$	40.8 \$	41.4 \$	42.1 \$	29.7 \$	28.4 \$	41
42	Total Distributed Energy	45.4	43.5	43.1	42.5	42.4	42
43	Base RES Program Budget \$	86.3 \$	84.9 \$	85.2 \$	72.3 \$	70.9 \$	43
44	Base Rates \$	(6.0)	(6.0)	(6.0)	(6.0)	(6.0)	44
45	Estimated Green Choice Revenue Credit	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	45
46	Estimated Unallocated Funds	(10.3)	(10.3)	-	-	-	46
47	RES Adjustor Collection ³	69.1 \$	67.8 \$	78.4 \$	65.4 \$	64.0 \$	47
48							48

Notes:

¹ Per AAC R14-2-1805.

² Does not include non-incentive installations from residential and non-residential energy resources, which do not count toward compliance. Non-incentive installations are defined as installations made by customers without taking a direct cash incentive and without transferring REC ownership to APS.

³ See Exhibit 1B for RES Adjustor Schedule.

Exhibit 1B: RES Adjustor Schedule

	Residential	XS Commercial (<20 kW)	Small Commercial (20-100kW)	Medium Commercial (100-400 kW)	Large Commercial (400-3,000 kW)	Industrial (>3,000 kW)
2020 Charge/Cap (Non-DG Customers)	\$2.55	\$94.59	\$0.006367/kWh			
			\$159.18	\$318.35	\$2,069.28	
2020 Average (DG Customers)	\$2.22	Cap: \$94.59 Floor: \$5.32	Cap: \$94.59 Floor: \$26.58	\$140.28	\$297.25	\$2,069.28

Exhibit 2A: Targeted Resources

Line No.	Targeted Generation Resources: 2	Ownership ¹	Actual / Expected Completion	2020-2024 Total MWac	2020	2021	2022	2023	2024	Total	Line No.
1	Solar:										1
2	Ajo	3rd Party PPA	Online	4.5	10,080	10,001	9,951	9,902	9,880	49,815	2
3	Prescott	3rd Party PPA	Online	10	25,088	24,770	24,523	24,277	24,099	122,757	3
4	Badger	3rd Party PPA	Online	15	38,545	38,209	37,926	37,644	37,414	189,738	4
5	Gillespie	3rd Party PPA	Online	15	41,500	41,172	40,966	40,761	40,675	205,076	5
6	Saddle Mountain	3rd Party PPA	Online	15	33,245	32,887	32,624	32,363	32,193	163,313	6
7	Solana CSP	3rd Party PPA	Online	250	845,587	844,838	844,838	844,838	845,587	4,225,688	7
8	Paloma	APS/AZ Sun	Online	17	38,589	39,201	38,927	38,654	38,442	194,815	8
9	Hyder I	APS/AZ Sun	Online	16	39,360	39,070	38,787	38,504	38,220	194,520	9
10	Cotton Center	APS/AZ Sun	Online	17	44,130	43,797	43,578	43,360	43,206	218,070	10
11	Chino Valley	APS/AZ Sun	Online	19	45,380	45,039	44,814	44,590	44,454	224,277	11
12	Potholes I/II	APS/AZ Sun	Online	35	108,974	108,177	107,636	107,098	106,752	538,637	12
13	Hyder II	APS/AZ Sun	Online	14	44,686	44,357	44,135	43,915	43,748	220,842	13
14	Gila Bend	APS/AZ Sun	Online	32	106,076	105,214	104,688	104,164	103,971	524,112	14
15	Luke AFB	APS/AZ Sun	Online	10	34,187	33,916	33,747	33,578	33,508	168,936	15
16	Desert Star	APS/AZ Sun	Online	10	34,856	34,582	34,409	34,237	34,164	172,249	16
17	Small Solar Sites	APS	Online	4.6	9,953	9,953	9,953	9,953	9,953	49,766	17
18	First Solar	3rd Party PPA	2021	50	-	59,867	86,613	85,778	84,936	317,194	18
19											19
20	Wind:										20
21	Aragonne Mesa	3rd Party PPA	Online	90	261,553	260,580	260,580	260,580	261,553	1,304,847	21
22	High Lonesome	3rd Party PPA	Online	100	278,836	277,999	277,999	277,999	278,836	1,391,670	22
23	Perrin Ranch	3rd Party PPA	Online	99	227,074	226,416	226,416	226,416	227,074	1,133,396	23
24											24
25	Geothermal:										25
26	Salton Sea/CE Turbo	3rd Party PPA	Online	10	66,018	65,817	65,817	65,817	66,018	329,488	26
27											27
28	Biomass/Biogass:										28
29	Snowflake	3rd Party PPA	Online	14	103,505	103,219	103,219	44,335	-	354,278	29
30	Sexton (Glendale Landfill) ³	3rd Party PPA	Online	2.9	-	-	-	-	-	112,923	30
31	Northwest Regional Landfill Gas	3rd Party PPA	Online	3.2	22,622	22,560	22,560	22,560	22,622	-	31
32											32
33											33
34											34
35	Total Targeted Generation			853	2,460,845	2,511,644	2,534,795	2,471,501	2,437,623	12,406,408	35
36	Targeted Distributed Energy Resources:¹										36
37	Residential:										37
38	UFI Installations	Customer-Sited DE	Various	Various	292,926	292,926	292,835	292,529	291,883	1,463,100	38
39	Non-Incentive Installations ⁴	Customer-Sited DE	Various	Various	1,127,030	1,240,999	1,354,967	1,468,936	1,582,904	6,774,836	39
40	Flagstaff Community Power Project	APS	Online	0.3	666	666	666	666	666	3,331	40
41	APS Solar Partner Program	APS	Online	9.4	16,176	16,076	15,977	15,878	15,780	79,886	41
42	APS Solar Communities Program	APS	Various	6.9	12,456	12,379	12,302	12,226	12,151	61,515	42
43											43
44	Subtotal Residential				1,449,255	1,563,046	1,676,747	1,790,235	1,903,383	8,382,667	44
45	Non-Residential:										45
46	UFI Installations	Customer-Sited DE	Various	Various	40,450	40,450	40,450	40,430	40,366	202,145	46
47	PBI Installations	Customer-Sited DE	Various	Various	194,743	178,957	174,849	167,255	165,672	881,477	47
48	Non-Incentive Installations ⁴	Customer-Sited DE	Various	Various	138,290	163,648	189,006	214,364	239,722	945,030	48
49	DE RFP	Customer-Sited DE	Online	38	75,643	75,378	75,114	74,851	74,589	375,575	49
50	Schools & Government (3rd-Party Owned)	Customer-Sited DE	Various	40	74,241	74,241	74,241	74,241	74,241	371,205	50
51	Schools & Government (Utility-Owned)	APS	Online	13	21,363	21,363	21,363	21,363	21,363	106,816	51
52	Flagstaff Community Power Project	APS	Online	0.9	1,739	1,739	1,739	1,739	1,739	8,694	52
53	APS Solar Communities Program	APS	Various	7.8	15,170	15,076	14,983	14,891	14,798	74,919	53
54	Wholesale DE	3rd Party PPA	Online	NA	87,819	98,538	109,490	120,645	131,914	548,406	54
55											55
56											56
57											57
58	Subtotal Non-Residential				649,458	669,391	701,235	729,779	764,405	3,514,267	58
59	Total Targeted DE				2,098,713	2,232,437	2,377,983	2,520,014	2,667,788	11,896,934	59
60											60
61											61

Notes:

¹ All utility-owned Third Party projects are developed through a competitive RFP process, and all DE systems are built independently by Third Party developers and installers.

² Reported as incremental production (non-annualized).

³ Reported as annualized production.

⁴ Non-incentive installations are defined as installations made by customers without taking a direct cash incentive and without transferring REC ownership to APS.

⁵ Sexton (Glendale Landfill) contract terminated as of June 30, 2019.

Exhibit 2B: Distributed Energy Compliance Table (MWh) ¹

This exhibit represents forecasted 2020-2024 RES DE compliance totals compared to what APS's compliance position would be if the Company were allowed to count independent, customer installations towards its RES compliance reporting. The non-incented installations shown below represents forecasted DE customer growth absent any new incentive program funding for 2020-2024.

Line No	2020	2021	2022	2023	2024
Residential DE (MWh)					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Non-Residential DE (MWh)					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
Total DE (MWh)					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
RES DE Requirements (MWh)					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Notes:

¹ If APS were allowed to count non-incented installations towards its RES DE compliance requirements, APS anticipates total installations projected to be installed through 2020 would:

- 1) advance residential compliance from 2017 to 2025,
- 2) advance non-residential compliance from 2021 to 2023, and
- 3) advance overall DE compliance from 2017 to 2023.

If APS were allowed to count non-incented installations towards its RES DE compliance requirements, APS anticipates total installations projected to be installed through 2024 would:

- 1) advance residential compliance from 2017 to 2025,
- 2) advance non-residential compliance from 2021 to 2025, and
- 3) advance overall DE compliance from 2017 to 2025.

² Includes UFI DE, Flagstaff Community Power Project, APS Solar Partner Program, and APS Solar Communities Program.

³

Non-incented installations defined as installs made by customers without taking a direct cash incentive and without transferring REC ownership to APS.

⁴ Includes UFI, PBI, Flagstaff Community Power Project, APS Solar Communities Program, and Wholesale DE programs.

Exhibit 2C: Distributed Energy Compliance Graph

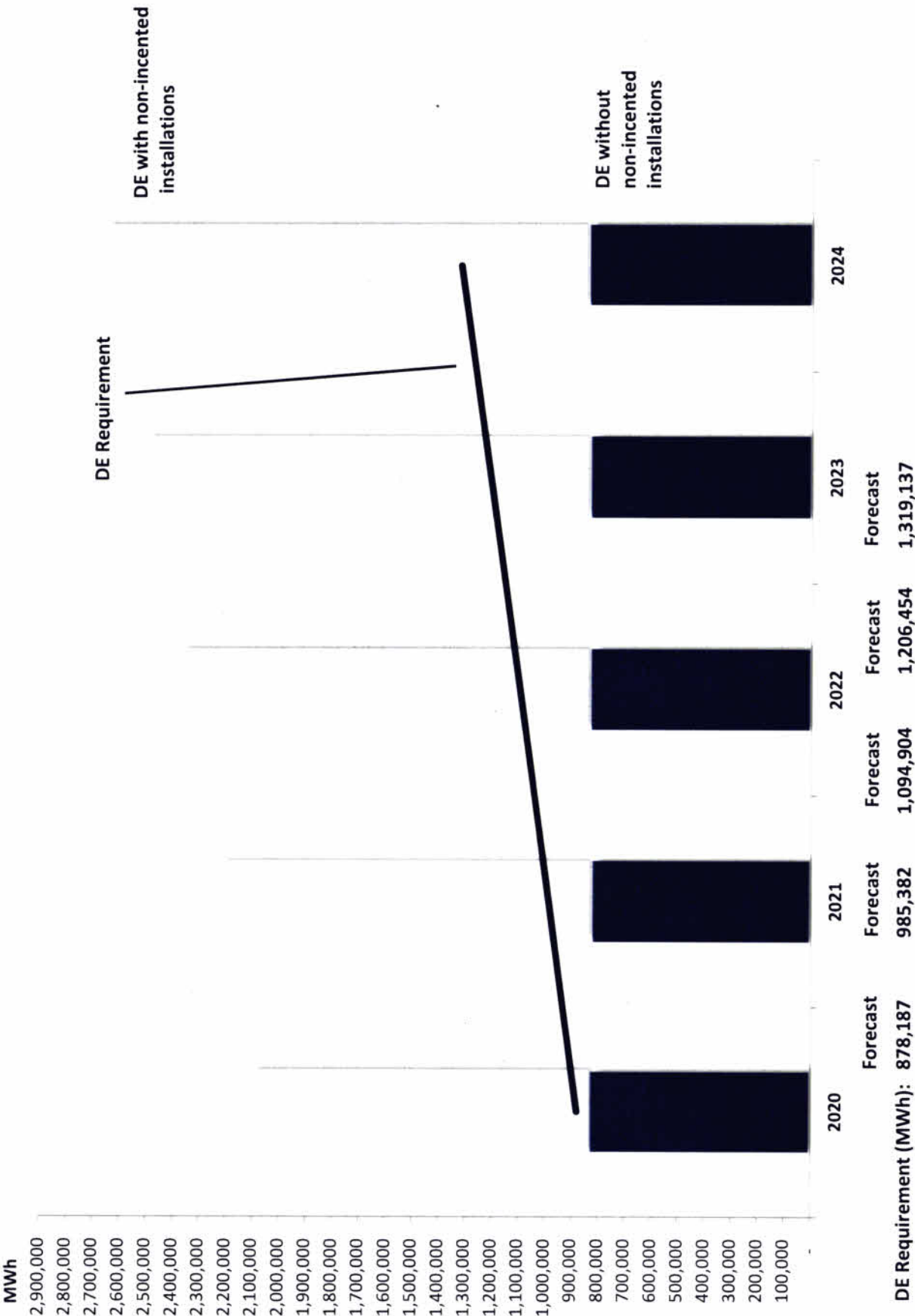


Exhibit 3A: 2020 RES IP Summary Budget

Line No.	2020	2021	2022	2023	2024	Total
Renewable Generation						
Renewable Generation Contracts and Operation and Maintenance						
Purchases and Generation	\$ 39.3	\$ 39.9	\$ 40.5	\$ 28.1	\$ 26.9	\$ 174.7
Administration	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 3.5
Implementation	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 4.3
Total Renewable Generation	\$ 40.8	\$ 41.4	\$ 42.1	\$ 29.7	\$ 28.4	\$ 182.5
Customer Sited Distributed Energy						
Existing Contracts and Commitments						
DE RFP	\$ 4.6	\$ 4.8	\$ 4.8	\$ 5.0	\$ 5.1	\$ 24.4
Production-based Incentives	\$ 20.1	\$ 18.5	\$ 18.2	\$ 17.4	\$ 17.3	\$ 91.5
Schools and Government Program Incentives ¹	\$ 7.2	\$ 7.2	\$ 7.2	\$ 7.2	\$ 7.2	\$ 36.1
APS Solar Communities (AZ Sun II) ²	\$ 4.6	\$ 4.2	\$ 4.1	\$ 4.1	\$ 4.0	\$ 21.0
Total Existing Contracts and Commitments	\$ 36.6	\$ 34.7	\$ 34.3	\$ 33.7	\$ 33.6	\$ 173.0
Non-Energy Distributed Energy Costs						
Administration	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 3.5
Implementation	\$ 7.5	\$ 7.5	\$ 7.5	\$ 7.5	\$ 7.5	\$ 37.4
Information Technology	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 2.5
Educational Outreach	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.6
Total DE Costs	\$ 8.8	\$ 8.8	\$ 8.8	\$ 8.8	\$ 8.8	\$ 44.1
Total Customer Sited DE (line 15 + line 23)	\$ 45.4	\$ 43.5	\$ 43.1	\$ 42.5	\$ 42.4	\$ 217.0
Total RES Budget (line 6 + line 25)	\$ 86.3	\$ 84.9	\$ 85.2	\$ 72.3	\$ 70.9	\$ 399.6
Offsets to Base Budget						
Base Rates	\$ (6.0)	\$ (6.0)	\$ (6.0)	\$ (6.0)	\$ (6.0)	\$ (30.0)
Estimated Green Choice Revenue Credit	\$ (0.9)	\$ (0.9)	\$ (0.9)	\$ (0.9)	\$ (0.9)	\$ (4.3)
Estimated Unallocated Funds	\$ (10.3)	\$ (10.3)	\$ -	\$ -	\$ -	\$ (20.6)
RES Surcharge Collection	\$ 69.1	\$ 67.8	\$ 78.4	\$ 65.4	\$ 64.0	\$ 344.7

Notes:

¹ Third-party owned portion of the current 2011, 2012, and expanded Schools and Government Programs.

² Reflects total program costs as approved in Decision No. 76295.

Exhibit 3B: Targeted RES Resource Costs (in \$Ms)

Line No.	Targeted Generation Resources: ¹	Ownership	COMPETITIVELY CONFIDENTIAL: Projected RES Cost per Year ²					Total	Line No.
			2020	2021	2022	2023	2024		
1	Solar:								1
2	Ajo	3rd Party PPA						\$ 2.2	2
3	Prescott	3rd Party PPA						4.3	3
4	Badger	3rd Party PPA						0.6	4
5	Gillespie	3rd Party PPA						1.3	5
6	Saddle Mountain	3rd Party PPA						0.9	6
7	Solana CSP	3rd Party PPA						130.1	7
8									8
9	Wind:								9
10	Aragonne Mesa	3rd Party PPA						13.8	10
11	High Lonesome	3rd Party PPA						-	11
12	Perrin Ranch	3rd Party PPA						5.3	12
13									13
14	Geothermal:								14
15	Salton Sea/CE Turbo	3rd Party PPA						2.7	15
16									16
17	Biomass/Biogas:								17
18	Snowflake	3rd Party PPA						13.4	18
19	Sexton (Glendale Landfill)	3rd Party PPA						-	19
20	Northwest Regional Landfill Gas	3rd Party PPA						0.1	20
21									21
22	Subtotal Targeted Generation		\$ 39.3	\$ 39.9	\$ 40.5	\$ 28.1	\$ 26.9	\$ 174.7	22
23	Targeted and Expected Distributed Energy Resources:								23
24									24
25	AZ Sun II Program:								25
26	APS Solar Communities ²	APS	\$ 4.6	\$ 4.2	\$ 4.1	\$ 4.1	\$ 4.0	\$ 21.0	26
27									27
28									28
29	Non-Residential:								29
30	PBI Installations	Customer-Sited DE	\$ 20.1	\$ 18.5	\$ 18.2	\$ 17.4	\$ 17.3	\$ 91.5	30
31	DE RFP	Customer-Sited DE	4.6	4.8	4.8	5.0	5.1	24.4	31
32	Schools & Government (3rd-Party Owned)	Customer-Sited DE	7.2	7.2	7.2	7.2	7.2	36.1	32
33									33
34	Subtotal Non-Residential Distributed Energy	(line 27 + line 32)	\$ 36.6	\$ 34.7	\$ 34.3	\$ 33.7	\$ 33.6	\$ 173.0	34
35	Total Targeted Energy Costs	(line 22 + line 34)	\$ 75.9	\$ 74.6	\$ 74.9	\$ 61.9	\$ 60.5	\$ 347.7	35
36	Notes:								36

¹ Redacted due to the competitively confidential nature of the information.

² Reflects total program costs as approved in Decision No. 76295.

Line No.	Year	Authorization	Description	PBI Lifetime Authorization:
1	2008 ^{1,2}	\$ 250.0	DE RFP Lifetime Budget	
2	2009 ³	220.0	Standard PBI Lifetime Budget	
3	2010 ⁴	100.0	Standard PBI Lifetime Budget	
4	2011 ⁵	100.0	Standard PBI Lifetime Budget (\$73M), School and Government PBI (\$27M)	
5	2012 ⁶	95.8	Standard PBI Lifetime Budget (\$30M), School and Government PBI (\$65.8M)	
6	2013 ⁷	6.0	Expanded School and Government PBI	
7		\$ 771.8	APS's Approved Lifetime PBI Authorization	
8	Retirement of Authorizations from Completed Programs:			
9		\$	(98.8) DE RFP ⁸	
10			(41.2) Standard PBI (2009 - 2012)	
11			(26.2) School & Government PBI (2011-2012)	
12			Retained for Expanded School and Government PBI ⁹	
13		\$ 633.4	Total Remaining Lifetime PBI Authorization	

Notes:

¹ Pursuant to Decision No. 71459, APS was authorized a total lifetime PBI Budget Authorization cap of \$250 million for the DE RFP.

² Pursuant to Decision No. 72022, APS was authorized to commit \$25 million of its DE RFP authorization to the Innovative Technologies Program.

³ Pursuant to Decision No. 71254, the total lifetime PBI budget through and including 2009 is \$220 million of total contract commitments.

⁴ Pursuant to Decision No. 71459, APS was authorized an additional \$100 million per year lifetime commitment authorization.

⁵ Pursuant to Decision Nos. 72022 and 72174, in 2011, APS committed \$27 million of its Lifetime PBI Budget Authorization towards the Schools and Government program.

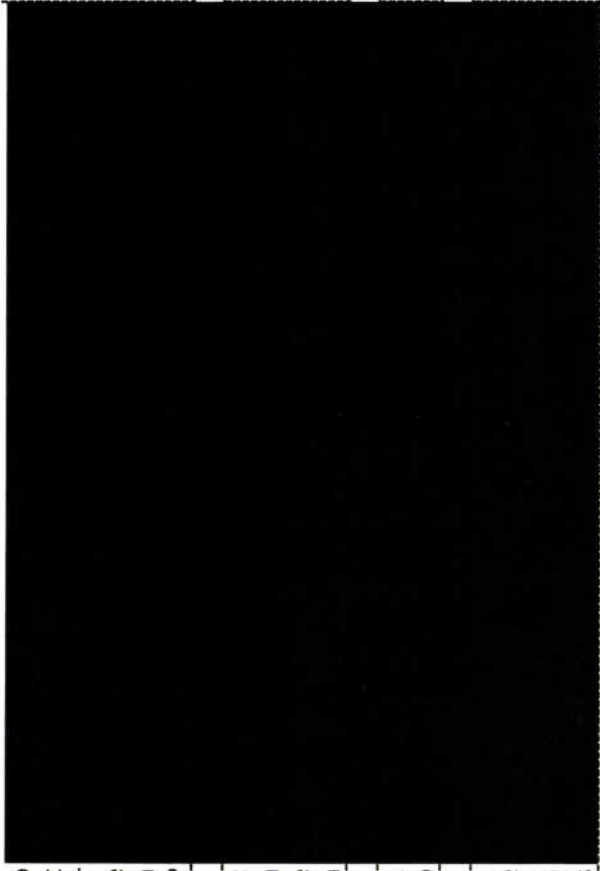
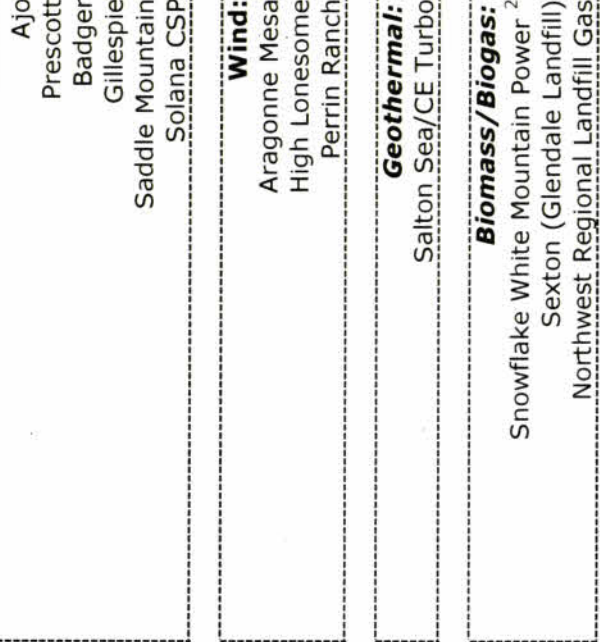
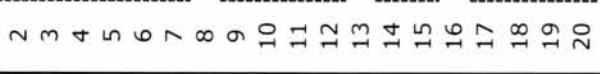


⁶ Pursuant to Decision No. 72737, \$30 million allocated to non-residential PBI and \$65.8 million to 2012 S&G.

⁷ Pursuant to Decision No. 73636, ACC authorized \$6M in new PBI program funds and a shift in \$23.5M of unallocated DE RFP funds to support anticipated 2012 S&G program needs.

⁸ Includes \$25M previously allocated to Innovative Technologies and \$49.9M in project commitment reduction due to cancellation of a portion of the DE RFP program.

⁹ Additional lifetime PBI authorization to complete program approved pursuant to Decision No. 72737.

Exhibit 3D: Third Party APS IP Renewable Generation RES Costs (\$/MWh)

		2020	2021	2022	2023	2024	Line No.
Line No.	Existing Contracts: ¹						
	Solar:						
	1						1
	2						2
	3						3
	4						4
	5						5
	6						6
	7						7
	8						8
	9						9
	10						10
	11						11
	12						12
	13						13
	14						14
	15						15
	16						16
	17						17
	18						18
	19						19
	20						20

Notes:

¹ Redacted due to the competitively confidential nature of the information.

² This project is split between Renewable Generation (RG) and Distributed Energy (DE).